Elephant Toothpaste

Credit to Babble Dabble Do

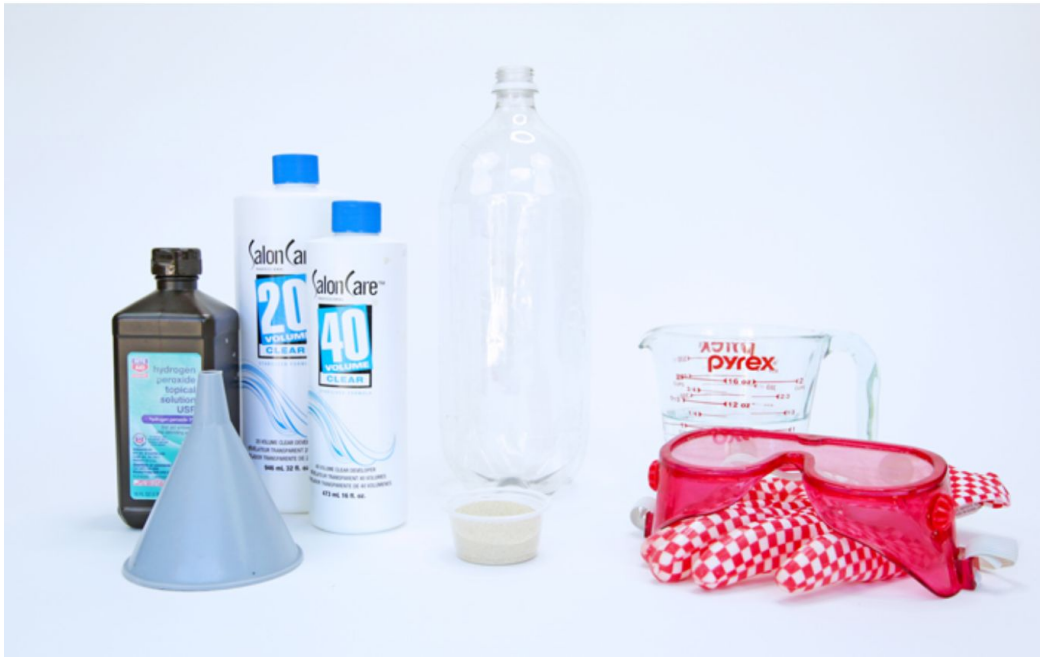
Adult supervision and help is needed on this project.

Ingredients Needed:

½ cup (4 oz) Hydrogen Peroxide

10 volume is the one you will find at most stores, you can also use 20 volume and 40 volume depending on how dramatic you want your experiment to be. You must use CLEAR developer NOT cream. The higher the volume the more dramatic it will be.

Food Coloring
Very Warm Water
1 packet Yeast per experiment (½ Tbsp if measuring from a jar)
Dishsoap
Recycled Plastic Water Bottle (size depends on experiment you decide to do from the video)
Funnel
Tray
Measuring Cups and Spoons
Safety Goggles
Plastic Gloves



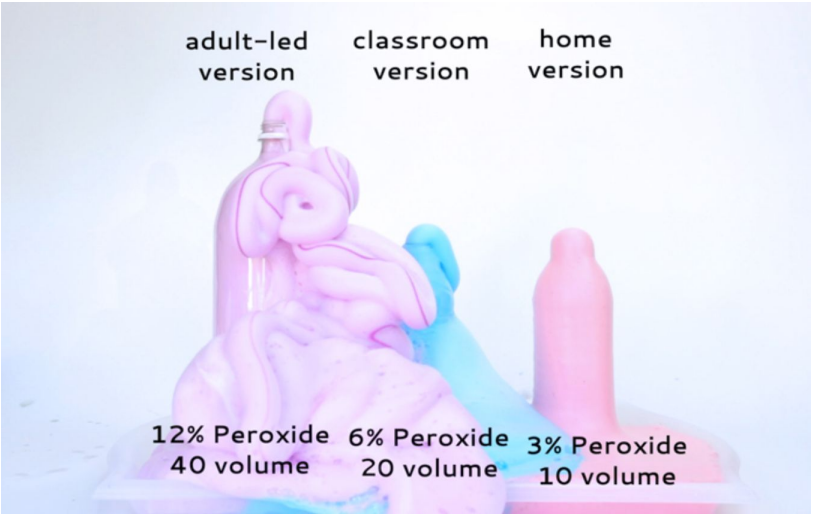
Safety FIRST!

- 40 volume experiments are recommended to be conducted by adults only as a demonstration.
- 20 and 40 volume Hydrogen Peroxide is a higher concentration and can irritate/burn the skin. Adults only should pour the peroxide into the bottles.

- Adults and children should wear safety goggles and plastic gloves at all time during the experiment
- The bottles can easily tip! Once the hydrogen peroxide has been poured into the bottles please have the kids hold the bottle steady so it does not fall over and spill (this does not apply to 40 volume peroxide)
- The foam is HOT! Do not touch the foam until it has cooled. And keep your gloves on!
- If it gets on your skin it will sting. Wash it off with soap and water immediately!

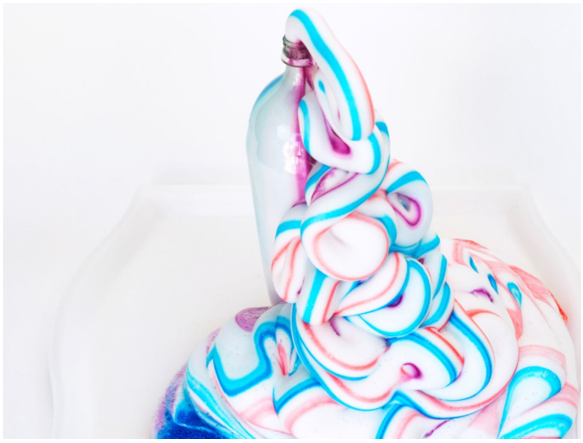
Instructions

1. Place your bottle in the center of a tray with sides and place a funnel in the bottle neck. There will be a lot of foam and this will contain the mess.
2. Add a few squirts of dish soap to the bottle
3. Add ½ cup (4 oz.) of hydrogen peroxide to the bottle and gently swirl to mix.
4. Add in a squeeze of food coloring. Gently swirl to mix. *See below for striped version instructions.*
5. Mix 1 packet or 1 Tbsp of yeast with ½ cup (4oz.) of very warm water. Stir to dissolve. It may be pasty.
6. Pour the yeast mixture through the funnel into the bottle. Give it a quick swirl then step back. BAM!



Striped Elephant Toothpaste Instructions:

Smooth sided bottle is needed
Steps 1, 2, 3 above are the same
Step 4 - Gently tilt the bottle and squeeze the food coloring onto the inside of the bottleneck. Let it drip down the side of the bottle. Rotate the bottle and add more “stripes”. DO NOT swirl the food coloring with the peroxide!
Step 5 - Mix 1 packet or 1 Tbsp of yeast with ½ cup (4oz.) of very warm water. Stir to dissolve. It may be pasty.
Step 6 - Pour the yeast mixture through the funnel into the bottle. Be careful not to swirl the bottle around too much.



TIPS:
Yeast - If possible use freshly opened yeast. Yeast that has been opened previously does not work as well.

Foam Safety - The foam is HOT! Once cooled it is safe to touch however it is recommended to keep your gloves on. Any hydrogen peroxide that may not have reacted with the yeast or might have leaked on the tray or bottle can sting and/or burn the skin.

Clean-up Safety - Be sure to keep your gloves on during clean-up so as not to accidentally touch any hydrogen peroxide that may not have reacted with the yeast. I speak from experience when I say that it will temporarily sting/burn your skin and leave a white bleached spot. If you do get the 20 or 40 volume hydrogen peroxide on your skin wash it immediately with soap and water.

Clean this up immediately. Over the course of a couple days the yeast will STINK! I learned this the hard way when I waited a few days to thoroughly clean all our supplies.

Let's Talk Science

Terms to know:

- **Catalyst** Something that speeds up a reaction.
- **Exothermic** Releasing heat

Hydrogen Peroxide is a solution that is chemically very similar to water but with one additional oxygen atom. When yeast is added to the hydrogen peroxide it acts as a catalyst that causes oxygen to be rapidly released. What's left behind is water and oxygen. The dish soap traps the released oxygen in the form of bubbly foam. The reaction is exothermic which is why the foam and bottle are hot after the experiment is conducted.

Link to Youtube video for Elephant Toothpaste Experiment by Babble Dabble Do:
https://youtu.be/cvm9UUaY-sE